

1 1. A spring assembly for a pressure gauge for connection to a pressure source, said spring
2 assembly comprising:

3 a coiled hollow tube having a first end and a second end with a body portion
4 therebetween, said hollow tube adapted to produce a displacement of the second end in response
5 to a change in said pressure source to which said first end is connected;

6 said body portion having a first longitudinal portion and a second longitudinal portion
7 extending from proximate to said first longitudinal portion to said second end and substantially
8 uniformly compressed along the second longitudinal portion to reduce volume thereby;

9 a transition area disposed between said first end and said first longitudinal portion of said
10 hollow tube, said transition area and being compressed so as to form a continuous longitudinally
11 extending ridge along said transition area; and

12 said second end of said body portion being sealed.

1 2. The spring assembly according to claim 1 wherein said first longitudinal portion of said
2 body portion is compressed so as to form a continuous longitudinally extending ridge
3 along said first longitudinal portion.

1 3. A method for manufacturing a spring assembly for a pressure gauge comprising the steps
2 of:
3 cold working predetermined portions of said spring assembly to form

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4 a hollow tube having a first end and a second end with said body portion therebetween,
5 said hollow tube adapted to produce a displacement of the second end in response to a change in
6 said pressure source to which said first end is connected;

7 said body portion having a first longitudinal portion and a second longitudinal portion
8 extending from proximate to said first longitudinal portion to said second end and substantially
9 uniformly compressed along the second longitudinal portion to reduce volume thereby;

10 said transition area disposed between said first end and said first longitudinal portion of
11 said hollow tube, said transition area and being compressed so as to form a continuous
12 longitudinally extending ridge along said transition area;

13 said second end of said body portion being sealed; and

14 heat treating said spring assembly;

15 acid washing said spring assembly;

16 rinsing and drying said spring assembly.

1 4. The spring assembly according to claim 1 wherein said hollow tube is stainless steel.

1 5. The spring assembly according to claim 1 further comprising an indicator pointer
2 attached to said second end of said body portion.

1 6. The spring assembly according to claim 1 further comprising a calibrated pressure gauge.

1 7. The spring assembly according to claim 1 wherein said spring assembly is treated with an
2 acid wash.

1 8. The spring assembly according to claim 6 wherein said acid wash comprises 25 percent
2 phosphoric acid and 75 percent water.

1 9. The spring assembly according to claim 1 wherein said spring assembly is heat treated.

1 10. The spring assembly according to claim 8 wherein said spring assembly is heat treated at
2 temperature between 600 and 800 degrees Fahrenheit for a time between 1 and 3 hours.